



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,937	01/15/2002	Gen Nakamura	03560.002982	1497

5514 7590 11/17/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

FRANK, ELLIOT L

ART UNIT	PAPER NUMBER
----------	--------------

2125

DATE MAILED: 11/17/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

10/044,937

Applicant(s)

NAKAMURA, GEN

Examiner

Elliot L Frank

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 21-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-25 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

- ✓ 1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

- ✓ 2. Applicant's election with traverse of Group I, claims 1-20, in Paper No. 5 is acknowledged.
- a. The traversal is on the ground(s) that the two inventions are closely related in the field of semiconductor manufacture, and therefore could be searched simultaneously without any additional burden on the examiner.
 - b. This is not found persuasive because the two completely distinct inventions recited in this application are not necessarily related. Figures 8-12 and specification pages 27-35 recite a secondary invention that could stand alone in its own application. In fact, the previously indicated drawings and specification pages makes no mention or reference to the invention of group I recited in the earlier portion of the application, further demonstrating there is no actual interdependence or relation between the two inventions. The requirement is still deemed proper and is therefore made FINAL.

Specification

- ✓ 3. The abstract of the disclosure is objected to because it contains legal phraseology and the purported merits of the invention. The abstract should be a narrative summary of the invention 50-150 words in length. Correction is required. See MPEP § 608.01(b).

Claim Objections

- ✓ 4. Claims 19 and 20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 19 and 20, while dependant, contain limitations that are drawn to a completely different invention than recited in claim 10, and therefore do not further limit the invention as defined by claim 10.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2125

6. Claims 1-4,6,8-12,14,15,17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (USPN 6,333,602 B1) in view of Mori et al. (USPN 5,971,577 A).

The limitations of the aforementioned claims, and the applicable citations in Kayser, are as follows:

1. A semiconductor manufacturing apparatus comprising:
a light source (column 4, lines 42-50); and
a lighting device, said lighting device comprising
(i) an electrical power source unit for supplying electricity to said light source, and
(ii) a starter unit for lighting said light source, wherein said starter unit has a metal piece for connecting said lighting device to said light source (requirements (i) and (ii) are read at column 5, lines 13-25).
2. A semiconductor manufacturing apparatus according to claim 1, wherein said light source is a discharge lamp (column 4, lines 42-50).
3. A semiconductor manufacturing apparatus according to claim 1, wherein said metal piece is disposed at a side wherein high voltage is applied for lighting said light source (column 5, lines 13-25, wherein the connection between the light source 10 and the socket 114 / ballast 113 is described).
4. A semiconductor manufacturing apparatus according to claim 1, further comprising a mechanism for integrally driving said light source and said lighting device (column 5, lines 13-25, wherein all of the aforementioned devices are integrated within housing 102).

6. A semiconductor manufacturing apparatus according to claim 1, wherein said light source and said lighting device are disposed within a single housing (column 5, lines 13-25, wherein all of the aforementioned devices are integrated within housing 102).

8. A semiconductor manufacturing apparatus according to claim 6, wherein the temperature of said light source and said lighting device is adjusted using air of the ambient atmosphere from outside said housing, taken into said housing from a single air intake and being subjected to temperature adjustment with a single temperature adjusting means (column 5, lines 31-41).

9. A semiconductor manufacturing apparatus according to claim 8, wherein said light source and said lighting device are subjected to temperature adjustment in the order of said lighting device first and then said light source, using the taken in air (Obvious in view of Kayser figures 2A and 3 wherein the cooling device, in this case a fan 110, is disposed to blow air over a ballast 113 before the lighting source 10).

Mori et al., analogous to Kayser in that both describe light source control systems (Mori et al., column 2, lines 29-39), is referenced here to further support Kayser in demonstrating that Kayser, a generic lighting system (Kayser, column 1, lines 8-10), has well known application to a semiconductor manufacturing process (Mori et al., column 1, lines 7-13). Claim 1 also requires that the light source be connected to said starter by "a metal piece". While Kayser anticipates a multitude of light sources (Kayser, column 4, lines 42-50) a light source with a single metal connection was not

Art Unit: 2125

mentioned. Mori et al. demonstrates that such a light source configuration was well known in the art at the time the invention was made (column 1, lines 52-63).

Claims 10-12,14,15 and 17 have the same functional limitations as claims 1,2,6,3,4 and 8 respectively. Therefore, these claims are obvious in view of the same citations in the combined references.

7. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (USPN 6,333,602 B1) in view of Mori et al. (USPN 5,971,577 A) as applied to claims 1 and 10 above, and further in view of Takahashi (USPN 6,040,894 A).

Claims 5 and 16 depend from claims 1 and 10 respectively. Claims 1 and 10 have been shown to be obvious in view of Kayser and Mori et al.

While the combined references make obvious a light source used in a semiconductor processing application, they do not specifically read on the additional limitations of claim 5:

5. A semiconductor manufacturing apparatus according to claim 1, further comprising means for changing the positional relation between said light source and an optical element disposed near said light source.

Takahashi, analogous to the previously combined references in that they all are applicable to light source control (Takahashi, column 1, lines 5-13), reads on the additional requirements of claim 5 at column 9, lines 36-48, wherein a method and device for changing the position of a light source is recited.

Claim 16 has the same functional limitations as claim 5, and therefore is obvious in view of the same citations in the combined references.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the elements of Takahashi into the combined Kayser and Mori et al. references to have provided a projection exposure apparatus and/or a device manufacturing method that enables a high resolving power (Takahashi, column 1, lines 61-63).

8. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (USPN 6,333,602 B1) in view of Mori et al. (USPN 5,971,577 A) as applied to claims 1 and 10 above, and further in view of Hayama et al. (USPN 6,104,204 A).

Claims 7 and 13 depend from claims 1 and 10 respectively. Claims 1 and 10 have been shown to be obvious in view of Kayser and Mori et al.

While the combined references make obvious a light source used in a semiconductor processing application, they do not specifically read on the additional limitations of claim 7:

7. A semiconductor manufacturing apparatus according to claim 6, wherein said housing has outer walls provided with electromagnetic shielding and has a configuration of copper wire mesh sandwiched between thermal insulating material, said copper wire mesh being grounded.

Hayama et al., analogous to the previously combined references in that they all are applicable to a semiconductor manufacturing process tools (Hayama et al.,

Art Unit: 2125

column 1, lines 5-17), reads on the additional requirements of claim 7 at column 8, lines 28-37 and column 14, lines 13-24, wherein it describes a structure meeting the requirements of claim 7.

Claim 13 has the same functional limitations as claim 7, and therefore is obvious in view of the same citations in the combined references.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the elements of Hayama et al. into the combined Kayser and Mori et al. references to have provided an enclosure that provides both electromagnetic and thermal shielding (Hayama et al., column 8, lines 28-37).

9. Claims 19 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Kayser (USPN 6,333,602 B1) in view of Mori et al. (USPN 5,971,577 A) as applied to claims 1 and 10 above, and further in view of Sepe, JR. (US 2001/0047213 A1).

Claims 19 and 20 depend from claim 10. Claim 10 has been shown to be obvious in view of Kayser and Mori et al.

The aforementioned combination, while making obvious a light source control apparatus, does not read specifically on the additional limitations of claims 19 and 20:

19. A semiconductor manufacturing apparatus according to claim 10, further comprising a computer having a display, a network interface, and networking

software, wherein data communication of maintenance information regarding said semiconductor manufacturing apparatus can be performed via a computer network.

20. A semiconductor manufacturing apparatus according to claim 19, wherein said networking software provides, on said display, a user interface for accessing a maintenance database which is provided by a vendor or user of said semiconductor manufacturing apparatus and which is connected to an external network outside of a plant wherein said semiconductor manufacturing apparatus is installed, thereby enabling information to be obtained from said database via said external network.

Sepe JR., analogous to the aforementioned combined references in that all of them are electronic control applications (Sepe, JR., page 1, paragraph 0003), reads on the additional limitations of claims 19 and 20 at page 3, paragraph 0053, wherein it discusses remote monitoring including the transmission of maintenance information.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the elements of Sepe, JR. into the previously combined references to have provided a virtual presence between geographically remote users and hardware platforms for multiple operations including technical support and remote servicing (Sepe, JR., page 1, paragraph 0014).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Art Unit: 2125

USPN 4,495,780 – Kaneko et al. – Cooled enclosure

USPN 6,247,830 B1 – Winnett et al. – Illumination device

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elliot L Frank whose telephone number is (703) 305-5442. The examiner can normally be reached on M-F 7-4:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.



ELF
November 6, 2003

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100